



Reference No.: ES-15-046

Via email and certified mail

Receipt No. 7009 2820 0004 4632 8621

March 2, 2015

Ms. Carmen Santos Regional PCB Coordinator US EPA Region 9 75 Hawthorne Street Mail Code: WST-5 San Francisco, CA 94105

Subject: Groundwater Sampling Results for Polychlorinated Biphenyls (PCBs) in the Old Town

Demolition Project Area of Lawrence Berkeley National Laboratory

Dear Ms. Santos,

The purpose of this letter is to respond to your February 3, 2015 request for information on polychlorinated biphenyls (PCBs) in groundwater in the Old Town Demolition Project (Project) area at Lawrence Berkeley National Laboratory (LBNL). In order to provide up to date information, LBNL collected groundwater samples from 15 well locations in the Project area in February 2015 for PCB analysis. No PCBs were detected.

Background

On February 3, 2015 a conference call was held to discuss PCB contamination found in the Project area. Participants in the conference call included Carmen Santos (the United States Environmental Protection Agency (EPA) Region 9 PCB Coordinator), LBNL representatives, United States Department of Energy (DOE) representatives, and representatives of LBNL's demolition subcontractor DMS. A listing of the LBNL, DOE, and DMS attendees is provided as Attachment 1. During the call you requested information regarding groundwater monitoring data for PCBs. The requested information is provided below.

Historical PCB Groundwater Results

Between 1998 and 2007 LBNL collected 26 groundwater samples for PCB analysis from five wells located in the current Project area. No PCBs were detected. Table 1 in Attachment 2 provides a list of the wells sampled, the sampling dates, and the detection limits. Figure 1 in Attachment 2 is a map showing sampling locations, locations where PCBs were detected in soil samples, and groundwater flow directions.

2015 PCB Groundwater Results

In order to provide a current and more comprehensive assessment of potential PCB contamination in the Project area groundwater, LBNL collected groundwater samples in February 2015 from 15 wells for PCB analysis. Groundwater samples were collected from 1) wells in the Project area located in or near areas where PCBs had been detected in the soil, except for one well with insufficient volume of water for sampling, and 2) a number of wells downgradient from the areas of soil contamination. Figure 2 in Attachment 2 shows the groundwater sampling locations, the locations where PCBs were detected in soil samples, and groundwater flow directions.

The Environmental Services Group (ESG) Sample Collection Form is included as Attachment 3. The Sample Collection Form provides the location (well number) of the wells that were scheduled for sampling, the corresponding Sample ID, the analytical laboratory, the requested analytical method, the date and time (if sampled), and the sample container. Environmental Restoration Program Groundwater Sampling Data Sheets are provided as Attachment 4. The data sheets include information on depth to groundwater, well purging volumes, water quality data, materials used for sampling, and instrument calibration.

Samples were collected in accordance with the methods specified in LBNL's ESG Procedure 233 Revision 01. All samples were analyzed by Curtis and Tompkins Ltd., a National Environmental Laboratory Accreditation Program (NELAP) certified laboratory located in Berkeley, California. Samples were analyzed for PCBs by EPA Method 8082. The two laboratory analytical reports that cover the 15 samples collected in February 2015 are provided as Attachment 5. No PCBs were detected ($<0.5 \mu g/L$).

Conclusion

The data collected during the evaluation described above indicates that no detectable PCBs are present in groundwater in the Old Town Demolition Project area.

If you have any questions or require additional information please contact David Baskin (dabaskin@lbl.gov) at 510-486-5684 or me (ropauer@lbl.gov) at 510-486-7614.

Sincerely,

Ron Pauer

Environmental Manager

Attachments:

- 1) Conference Call Participants
- 2) Table and Figures
- 3) Environmental Services Group Sample Collection Form
- 4) Environmental Restoration Program Groundwater Sampling Data Sheets
- 5) Curtis and Tompkins Analytical Reports (2)

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Page 3 of 3

cc via email w/attachments:

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Jacinto Soto jsoto@dtsc.ca.gov

Karen Toth (ktoth@dtsc.ca.gov)

Nancy Ware (NMWare@lbl.gov)

Attachment 1

February 3, 2015 Conference Call Participants

Meeting Attendance Register – Conference Call with EPA Regional PCB Coordinator on Old Town – Room 75-124-CR(20) Meeting Date: February 3, 2015

Name	Organization	Telephone	Email
Ron Paler	LBLL	486-7614	topuere bl. gov
TOE GAUTOS	LBNL	x 5077	njgantos a Ph. go
JEARN PARKIN	Dms	× 10170	JPARKING DISSIP. COM
KAN ATUNSON	DMO	× 6170	KATUNSON PAMSMP. COM
Ditte Norman	Dens	509-539-3405	dnormanadinsmp.com
BRUCE MARVIN	GEOSYNTEC DMS	5102852753	BMARVING GEOSYNTEC.COM
BOD DEVALUA	WELSS	518-450-6144	rode weiss, com
TED MANGONSKI	LBC	510-495-7012	tranks in the COLBE GOV
Mary Gress	DOE-BSO	510-486-4373	Many, Grossa Science DOE.GOV
Bob Cronin	LBNL	510-495-2849	rd cronine, LBL.gov
Joseph Hartines	LBWC	510-486-7486	johadeinsælbl.gov
KEVIN BAZZELL	DOE-EM	510-486.5547	KENIN BAZZEN (VEMISCO DOE GOV page 1 of 2

Attachment 2

Table and Figures

Table 1 **Old Town Demolition Project Area Historical Groundwater Monitoring Results Polychlorinated Biphenyls**

Well Number	Sampling Date	Result ^(a)	Detection Limit
181A/E 02 40	2/44/2045	ND	0.5 μg/L ^(b)
MW5-93-10	2/11/2015	ND	
MW7-92-16	2/11/2015	ND	0.5 μg/L
MW16-94-13	6/10/1998	ND	0.2 μg/L
	5/28/1999	ND	0.2 μg/L
1	9/12/2000	ND	0.2 μg/L
]	9/12/2001	ND	0.2 μg/L
1	9/4/2002	ND	0.2 μg/L
l -	8/20/2003	ND	0.2 μg/L
	2/11/2015	ND	0.5 μg/L ^(b)
MW16-95-3	2/11/2015	ND	0.5 μg/L ^(b)
MW52-93-14	4/11/2000	ND	0.3 μ g/ L
MW52-95-2B	2/10/2015	ND	0.5 μg/L ^(b)
MW52A-98-8B	2/10/2015	ND	0.5 μg/L ^(b)
MW52B-95-13	12/22/1998	ND	0.2 μg/L
	9/14/2000	ND	0.2 μg/L
l [9/17/2003	ND	0.2 μg/L
	8/17/2004	ND	0.2 μg/L
	8/23/2007	ND	0.2 μg/L
	2/12/2015	ND	0.5 μg/L ^(b)
MW53-93-9	2/11/2015	ND	0.5 μ g /L ^(b)
MW53-96-1	2/11/2015	ND	0.5 μg/L ^(b)
MW90-2	2/11/2015	ND	0. <u>5</u> μg/L ^(b)
MW91-9	2/11/2015	ND	0.5 μg/L ^(b)
EW7C-04-2	2/10/2015	ND	0.5 μ g/L^(b)
SB7-97-1	2/12/2015	ND	0.5 μg/L ^(b)
SB16-97-11	4/7/2000	ND	0.2 μg/L
[5/16/2001	ND	0.2 μg/L
	3/26/2002	ND	0.2 μg/L
	3/5/2003	ND	0.2 μg/L
	3/8/2004	ND_	0.2 μg/L
l	3/21/2005	ND	0.2 μg/L
	2/12/2015	ND	0.5 μg/L ^(b)
SB16-98-1	3/22/1999	ND	0.5 μg/L
] [6/16/1999	ND	0.2 μ g/L
[10/17/2000	ND	0.2 μg/L
[10/3/2001	ND	0.2 μg/L
[L	3/22/2002	ND	0.2 μg/L
	9/30/2002	ND	0.2 μg/L
	9/17/2003	ND	0.2 μg/L
	9/13/2004	ND	0.2 μg/L
	2/12/2015	ND	0.5 μg/L ^(b)

(a) Aroclors: 1016, 1221, 1232, 1242, 1248, 1254, and 1260 (b) Aroclor 1221 detection limit is 1.0 $\mu g/L$

ND: No PCBs detected.

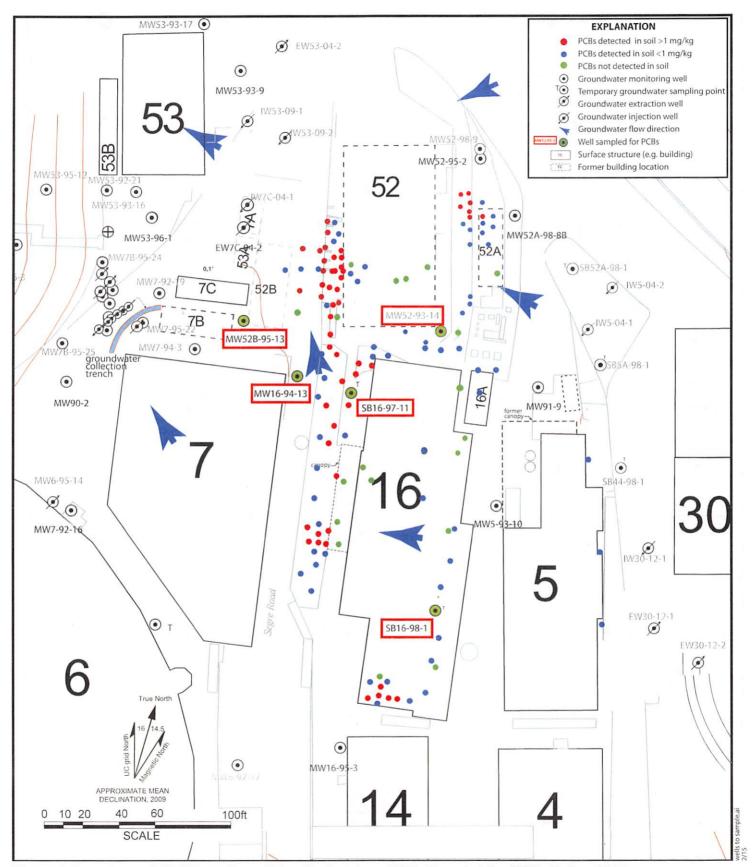


Figure 1. Locations of Old Town Demolition Project Area Wells Sampled for PCBs Before 2015.

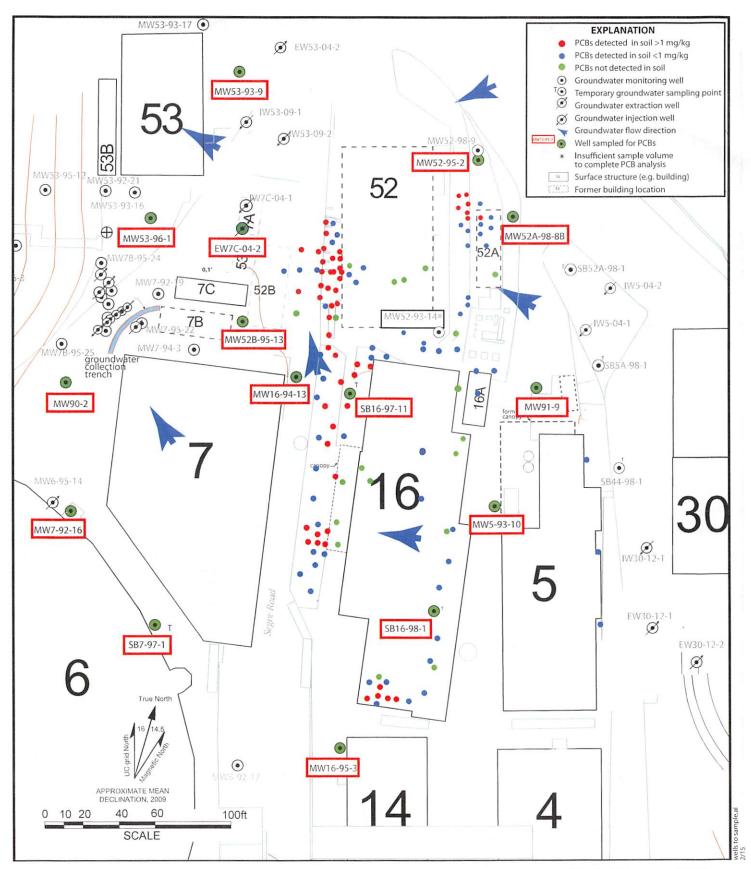


Figure 2. Locations of Old Town Demolition Project Area Wells Sampled for PCBs in February 2015.

Attachment 3

Environmental Services Group Sample Collection Forms

ESG Sample Collection Form

U.C. Lawrence Berkeley National Laboratory

1 Cyclotron Road

Groundwater Monitoring

1 Cyclotron Road Berkeley CA 94720

Old Town Groundwater Sampling in PCBs, Feb 2015

Collection: 7698

Sample D	lata	A SHOP SHOW									
Sample II	Location	SampleType	QC Type	Coll Type	Lab/Analysis	Date/time	Container(s)	Presv	Amount	Depth ft	Sample Notes
75180	MW16-94-13	Aqueous	Sample	Grab	CURTISTOMP	2/11/2015	2-1 Liter AG	None	1 S		
2-15-47		Sample Collec	ted: Yes		E8082A	9:40:00 AM					
75181	MW16-95-3	Aqueous	Sample	Grab	CURTISTOMP	2/11/2015	2-1 Liter AG	None	1 S		
-15-44		Sample Collec	ted: Yes		E8082A	8:20:00 AM					
75182	SB16-97-11	Aqueous	Sample	Grab	CURTISTOMP	2/12/2015	2-1 Liter AG	None	1 S		
2-15-55		Sample Collec	ted: Yes		E8082A	8:10:00 AM					
75183	SB16-98-1	Aqueous	Sample	Grab	CURTISTOMP	2/12/2015	2-1 Liter AG	None	1 S		
2-15-57		Sample Collec	ted: Yes		E8082A	8:50:00 AM					
75184	MW5-93-10	Aqueous	Sample	Grab	CURTISTOMP	2/11/2015	2-1 Liter AG	None	1 S		
2-15-46		Sample Collec	ted: Yes		E8082A	9:00:00 AM					
75185	MW7-92-16	Aqueous	Sample	Grab	CURTISTOMP	2/11/2015	2-1 Liter AG	None	1 S		
2-15-49		Sample Collec	ted: Yes		E8082A	11:30:00 AM					
75186	SB7-97-1	Aqueous	Sample	Grab	CURTISTOMP	2/12/2015	2-1 Liter AG	er AG None	1 S		
2-15-53		Sample Collec	ted: Yes		E8082A	7:10:00 AM			-		
75187	EW7C-04-2	Aqueous	Sample	Grab	CURTISTOMP	2/10/2015	2-1 Liter AG	None	1 S		
2-15-36		Sample Collec	ted: Yes		E8082A	9:45:00 AM					
75188	MW90-2	Aqueous	Sample	Grab	CURTISTOMP	2/11/2015 12:35:00 PM	2-1 Liter AG	None	1 S		
2-15-51		Sample Collec	ted: Yes		E8082A						
75189	MW91-9	Aqueous	Sample	Grab	CURTISTOMP	2/11/2015	2-1 Liter AG	None	1 S		_
2-15-45		Sample Collec	ted: Yes		E8082A	8:40:00 AM					

Page 1 of 2

Sample Da	ata										
Sample ID	Location	SampleType	QC Type	Coll Type	Lab/Analysis	Date/time	Container(s) Presv	Amount	Depth ft	Sample Notes
75190	MW52-93-14	Aqueous	Sample	Grab	CURTISTOMP		2-1 Liter AG	None	1 S		
		Sample Collect	ted: Yes		E8082A						
75191	MW52-95-2B	Aqueous	Sample	Grab	CURTISTOMP	2/10/2015	2-1 Liter AG	None	1 S		
2-15-37		Sample Collect	ted: Yes		E8082A	10:30:00 AM					
75192	MW52A-98-8B	Aqueous	Sample	Grab	CURTISTOMP	2/10/2015 10:50:00 AM	2-1 Liter AG	None	e 1 S		
2-15-38		Sample Collec	ted: Yes		E8082A						
75193	MW52B-95-13	Aqueous	Sample	Grab	CURTISTOMP	2/12/2015	2-1 Liter AG	None	None I S		
2-15-54		Sample Collec	ted: Yes		E8082A	7:45:00 AM					
75194	MW53-93-9	Aqueous	Sample	Grab	CURTISTOMP	2/11/2015	2-1 Liter AG	None	one 1 S		
2-15-48		Sample Collec	ted: Yes		E8082A	10:10:00 AM					
75195	MW53-96-1	Aqueous	Sample	Grab	CURTISTOMP	2/11/2015	2-1 Liter AG	None	1 S		
2-15-50		Sample Collec	ted: Yes		E8082A	12:10:00 PM					

Attachment 4

Environmental Restoration Program Groundwater Sampling Data Sheets

Work Dates: _	2/10/	/2015	_	Well Number	er: <u>EW7C-04-2</u>	•
GENERAL INFORMATION		10: 1				ì
Field Personnel (Print):	Jim Chiu, Nee	el Singh		Б Т	\	
Well Diameter (in):				Purge Taget Volume (3 x		
Total Depth (h ₂) (ft):				Total Volume Purged (ga	· · · · · · · · · · · · · · · · · · ·	
nitial Depth-to-Water (DTW) (ft):			Did well go dry? (y/n)	no		
Vater Column (H) (ft):			Post sample DTW (ft):	nm		
Casing Volume (c _v) (gal)	<u>: </u>		10.19			
CALIBRATION						
Instrument Name	Instrumen	t Number	Date	Calibration Re	esults Calibrated? (Y/N)	Initial
HACH	HQ	40d	2/10/2015	pH 4.01	Yes	JKC
				pH 10.01	Yes	JKC
				1000 μs/cm	Yes	JKC
MATERIALS USED						
Peristoltic Pump		Notes:				
Rediflow Pump	<u> </u>					
Sample Bottles	<u> </u>					
Teflon Bailer	<u> </u>			· · · · · · · · · · · · · · · · · · ·		
DESCRIPTION OF WOR						
Grab sample collected fr	om extraction	well One	set of param	ieters also collected		
						
						
<u> </u>						

Work Dates:	2/10/2015	Well Number:	EW7C-04-2
-			

Casing Volume	Time	Cummulative Volume (Gallons)	Temperature (°C)	рН	Conductivity (µs/cm)	Qualitative Observations (color, turbidity, odors, sediment
Beginning	9:40	0.00	17.3	7.05	558	Clear
0.5 cv		5.10				
1.0 cv		10.19				
1.5 cv		15.29				
2.0 cv		20.39				
2.5 cv		25.49				
3.0 cv		30.58				
CV						
CV						
CV						
cv						

Sample Date	Sample Time	Sample Number	Analysis Requested		Chain-of-Custody Number
2/10/2015	9:45	2-15-36	PCB's	JKC/NS	
			<u> </u>		
			· · · · · · · · · · · · · · · · · · ·		

ACKNOWLEDGMENT Prepared by (print):	AND REVIEW Jim Chiu		Date:	2/10/2015
Other Field Personnel:	Neel Singh	·		
Reviewed by (sign):	David Baskin	Copular, special school failer On an Constitution (All Face Vs. provide discharbeits par 1-1) Gas (1912) por haller of the special special school part of the special	Date:	

Work Dates:	2/11	/2015	<u></u>	Well Number:	MW16-94-13	
			,			
GENERAL INFORMAT Field Personnel (Print):		l Singh				7
Well Diameter (in):	Jim Cinu, Nec	il Siriyii	T 2	Purge Taget Volume (3 x c _v) (gal) 15.3	,
l ' '			 			
Total Depth (h ₂) (ft):	~T\A/\ /#\\.			Total Volume Purged (gal):	` ''	
nitial Depth-to-Water (DTW) (ft): Vater Column (H) (ft):			Did well go dry? (y/n) Post sample DTW (ft):	40.	<u>n</u>	
	Casing Volume (c_v) (gal):		5.11		40.	"
Casing volume (C _V) (ga	1).		3.11			
CALIBRATION						
		4 NJ: L	Doto	Calibration Resu	its	1-141-1
Instrument Name	Instrumer	t Number	Date	1	alibrated? (Y/N)	Initial
HACH	HQ	40d	2/11/2015	pH 4.01	Yes	JKC
				pH 10.01	Yes	JKC
				1000 μs/cm	Yes	JKC
MATERIALS USED Peristoltic Pump		Notes:				
Rediflow Pump	<u> </u>	110103.				
Sample Bottles	<u>.</u>					
Teflon Bailer	<u></u>					
	· · · · · · · · · · · · · · · · · · ·					
DESCRIPTION OF WO						
Pumped 3 cvs- collecte	d samples					-
						

Work Dates:	2/11/2015	Well Number:	MW16-94-13

Casing Volume	Time	Cummulative Volume (Gallons)	Temperature (°C)	рН	Conductivity (µs/cm)	Qualitative Observations (color, turbidity, odors, sediment
Beginning	9:27	0.00	14.8	7.45	603	clear
0.5 cv	9:28	2.56	16.7	7.25	590	clear
1.0 cv	9:30	5.11	17.5	7.17	587	clear
1.5 cv	9:32	7.67	18.0	7.18	586	clear
2.0 cv	9:34	10.23	18.6	7.24	589	clear
2.5 cv	9:36	12.78	18.3	7.27	599	clear
3.0 cv	9:37	15.34	18.1	7.31	601	clear
cv						
cv						
cv						
cv						

Sample Date	Sample Time	Sample Number	Analysis Requested	Sampler's Initials	Chain-of-Custody Number
2/11/2015	9:40	2-15-47	PCB's	JKC/NS	

				<u></u>	

ACKNOWLEDGMENT	AND REVIEW			
Prepared by (print):	Jim Chiu		Date:	2/11/2015
Other Field Personnel:	Neel Singh			
Reviewed by (sign):	David Baskin	Opendy-upword by David Statute Dit (14/David Statute on 1/80, mod for small-statute) give (-1/1) David 21/1/20 11/21/20 11/20 11/20	Date:	
Reviewed by (sign):	David Baskin	Dit conDavid Baskin, and Bist, own ESG, small-diabaskind/filegov c-US	Date:	

Work Dates:	2/11	/2015		Well Number:	MW16-95-3	
GENERAL INFORMAT		10:				1
Field Personnel (Print):	Jim Chiu, Nee	el Singh		In T 444	V 10 1 44 55	ļ
Well Diameter (in):				Purge Taget Volume (3 x c		4
Total Depth (h ₂) (ft):				Total Volume Purged (gal):		1
Initial Depth-to-Water (D	OTW) (ft):			Did well go dry? (y/n)	N	
Water Column (H) (ft):				Post sample DTW (ft):	35.6	
Casing Volume (c _v) (gal):		3.84			j
CALIBRATION			.			
Instrument Name	Instrumer	it Number	Date		alibrated? (Y/N)	Initial
HACH	HQ	40d	2/11/2015		Yes	JKC
				pH 10.01	Yes	JKC
				1000 µs/cm	Yes	JKC
MATERIALS USED Peristoltic Pump		INI-A				
Rediflow Pump	<u> </u>	Notes:				
Sample Bottles	<u> </u>					
Teflon Bailer	<u> </u>		<u></u>			
DESCRIPTION OF WO Pumped 3 cvs- collected						
Tamped o ore concess	- Campioo					

		*				
						
			<u> </u>			

Work Dates:	2/11/2015	Well Number:	MW16-95-3
	· · · · · · · · · · · · · · · · · · ·	-	

Casing Volume	Time	Cummulative Volume (Gallons)	Temperature (°C)	рН	Conductivity (µs/cm)	Qualitative Observations (color, turbidity, odors, sediment
Beginning	8:10	0.00	12.5	7.39	495	clear
0.5 cv	8:11	1.92	15.4	7.24	508	clear
1.0 cv	8:12	3.84	16.8	7.19	495	clear
1.5 cv	8:13	5.77	17.9	7.17	508	clear
2.0 cv	8:14	7.69	18.4	7.14	500	clear
2.5 cv	8:15	9.61	17.9	7.14	495	clear
3.0 cv	8:16	11.53	18.1	7.17	497	clear
cv						
cv						
cv						
cv						

Sample Date	Sample Time	Sample Number	Analysis Requested	Sampler's Initials	Chain-of-Custody Number
2/11/2015	8:20	2-15-44	PCB's	JKC/NS	
				_	
				<u> </u>	

ACKNOWLEDGMENT	AND REVIEW			
Prepared by (print):	Jim Chiu		Date:	2/11/2015
Other Field Personnel:	Neel Singh		-	
			-	
Reviewed by (sign):	David Baskin	Digitally signed by Dand Basisin DN cn-Dand Basis o 1884, ou (\$5c, email disbasismetti ger c 1/5 Dec 3/1013/8/8/84 (2007)	Date: _	

Lawrence Berkeley National Laboratory

Work Dates:

2/10/15, 2/17/15

Environmental Restoration Program GROUNDWATER SAMPLING DATA

Well Number: MW52-93-14

GENERAL INFORMAT		-1 0:b				l
Field Personnel (Print):	Jim Chiu, Ne	ei Singn		Duran Togat Valura (2 v. a.) (as)	0.66	
Well Diameter (in):				Purge Taget Volume (3 x c _v) (gal)	0.66	
Total Depth (h ₂) (ft):				Total Volume Purged (gal): (c _v)	0.66	
Initial Depth-to-Water (D	OTW) (ft):			Did well go dry? (y/n)	yes	
Water Column (H) (ft):				Post sample DTW (ft):	NA	
Casing Volume (c _v) (gal):		0.22			
CALIBRATION						
			1	Calibration Results		
Instrument Name	Instrume	nt Number	Date	Standard Calibrated	? (Y/N)	Initial
HACH	HC	Q40d	2/10/2015		'es	JKC
				pH 10.01	'es	JKC
				1000 μs/cm Y	'es	JKC
1						
MATERIALS USED		INIctory				
Peristoltic Pump Rediflow Pump	<u> </u>	Notes:			<u> </u>	
Sample Bottles	<u> </u>	1				
Teflon Bailer	<u> </u>					
Tellori Dallei				·		
DESCRIPTION OF WO						
		collect sample	s. Well only	had about 1/3 liter of water. Not enou	igh for	
a representative sample	:jkc					
			<u> </u>			
				12.1		
				•	·	

Work Dates:	2/10/15, 2/17/15	Well Number:	MW52-93-14
--------------------	------------------	--------------	------------

Casing Volume	Time	Cummulative Volume (Gallons)	Temperature (°C)	рН	Conductivity (µs/cm)	Qualitative Observations (color, turbidity, odors, sediment
Beginning	13:48	0.00	17.7	8.00	475	Turbid-brown
0.5 cv	13:50	0.11	17.4	7.92	481	Turbid-brown
1.0 cv	13:52	0.22	17.0	7.75	483	Turbid-brown
1.5 cv	13:54	0.33				Dry at .3 gallons
2.0 cv		0.44				
2.5 cv		0.55				
3.0 cv		0.66				
cv						
cv						
cv						
CV						

Sample Date	Sample Time	Sample Number	Analysis Requested		Chain-of-Custody Number
			PCB's	JKC/NS	
				<u> </u>	

ACKNOWLEDGMENT	AND REVIEW			
Prepared by (print):	Jim Chiu		Date: _	2/12/2015
Other Field Personnel:	Neel Singh		-	
			-	
Reviewed by (sign):	David Baskin	Oppda serve to three low- Comment of the Comment of	Date: _	

Work Dates:	2/10	/2015		Well Nu	mber: _	MW52-95-2B	
GENERAL INFORMATI	ON						
Field Personnel (Print):		el Singh					
Well Diameter (in):			2	Purge Taget Volume	(3 x c _v)	(gal) 27.85	
Total Depth (h ₂) (ft):				Total Volume Purged			
Initial Depth-to-Water (D	TW) (ft):			Did well go dry? (y/n)		no	
Water Column (H) (ft):	, , , , , ,			Post sample DTW (ft		62.1	
Casing Volume (c _v) (gal):		9.28		,		
							•
CALIBRATION							
				Calibration	n Result	<u> </u>	
Instrument Name	Instrumer	nt Number	Date	Standard		brated? (Y/N)	Initial
HACH	HQ	40d	2/10/2015			Yes	JKC
				pH 10.01		Yes	JKC
				1000 µs/cm		Yes	JKC
MATERIALS USED	-	In					
Peristoltic Pump		Notes:					
Rediflow Pump							
Sample Bottles Teflon Bailer							
reliun baller		L					
DESCRIPTION OF WO	RK DONE						
Pumped 3 cvs- collected	samples from	m sampling p	ort. (Has a c	ledicated pump)			
*							

Work Dates:	2/10/2015	Well Number: MW52-95-2B

Casing Volume	Time	Cummulative Volume (Gallons)	Temperature (°C)	рН	Conductivity (µs/cm)	Qualitative Observations (color, turbidity, odors, sediment
Beginning	10:08	0.00	16.9	7.31	613	Clear
0.5 cv	10:11	4.64	18.0	7.18	593	Clear
1.0 cv	10:14	9.28	18.4	7.15	592	Clear
1.5 cv	10:17	13.93	18.5	7.15	591	Clear
2.0 cv	10:20	18.57	18.5	7.17	590	Clear
2.5 cv	10:23	23.21	18.5	7.17	591	Clear
3.0 cv	10:26	27.85	18.5	7.20	590	Clear
cv						
CV						
cv						
cv						

Sample Date	Sample Time	Sample Number	Analysis Requested	Sampler's Initials	Chain-of-Custody Number
2/10/2015	10:30	2-15-37	PCB's	JKC/NS	
				_	
					

ACKNOWLEDGMENT	AND REVIEW			
Prepared by (print):	Jim Chiu		Date: _	2/10/2015
Other Field Personnel:	Neel Singh			
Reviewed by (sign):	David Baskin	Begind upon to Name State. The or Chemister wildly, price made relative stellars to 15 borns to the state of	 Date: _	

Work Dates:	2/10)/2015	_	Well N	umber: <u>NW52A-98-8B</u>	_
CENEDAL INCODMAT	101					
GENERAL INFORMAT Field Personnel (Print):		ol Singh				٦
Well Diameter (in):	Jim Chia, Ne	er Singn	T 2	Purge Taget Volume	e (3 x c _v) (gal) 10.8	-
1				Total Volume Purge		
Total Depth (h ₂) (ft):	DT14() (#1).			Did well go dry? (y/n	· · · · · · · · · · · · · · · · · · ·	_
Initial Depth-to-Water (I Water Column (H) (ft):	(ת):			Post sample DTW (
Casing Volume (c _v) (ga	11.		3.60	-	11).	Ί
Casing Volume (C _V) (ga	1).		3.00	1		J
CALIBRATION						
				Calibratio	on Results	T
Instrument Name	Instrume	nt Number	Date	Standard	Calibrated? (Y/N)	Initial
HACH	НС	Q40d	2/10/2015	pH 4.01	Yes	JKC
				pH 10.01	Yes	JKC
				1000 μs/cm	Yes	JKC
MATERIALOUGER						
MATERIALS USED		Matan				
Peristoltic Pump Rediflow Pump		Notes:				
Sample Bottles	<u> </u>	+				
Teflon Bailer	 					
Tellon ballel	<u> </u>	1				
DESCRIPTION OF WO	RK DONE					
Pumped 3 cvs- collecte		m sampling r	ort (Has a d	edicated pump)		
				<u> </u>		

Work Dates:	2/10/2015	Well Number: MW52A-98-8B

Casing Volume	Time	Cummulative Volume (Gallons)	Temperature (°C)	рН	Conductivity (µs/cm)	Qualitative Observations (color, turbidity, odors, sediment
Beginning	10:33	0.00	18.2	7.20	670	clear
0.5 cv	10:35	1.80	18.4	7.07	843	clear
1.0 cv	10:37	3.60	18.5	7.10	839	clear
1.5 cv	10:39	5.41	18.7	7.13	837	clear
2.0 cv	10:41	7.21	18.7	7.16	842	clear
2.5 cv	10:43	9.01	18.7	7.17	839	clear
3.0 cv	10:45	10.81	18.7	7.16	840	clear
cv						
cv						
cv						
CV						

Sample Date	Sample Time	Sample Number	Analysis Requested	Sampler's Initials	Chain-of-Custody Number
2/10/2015	10:50	2-15-38	PCB's	JKC/NS	

ACKNOWLEDGMENT Prepared by (print):	AND REVIEW Jim Chiu		Date:	2/10/2015
Other Field Personnel:	Neel Singh			
Reviewed by (sign):	David Baskin	DeptuBy signed by David Baskin Ot: on-David Baskin on-186. our 156. empti-debaskingbbl gov. c=U\$ Outer_1865.00 Association on 1865.	 Date:	

Lawrence Berkeley National Laboratory

Environmental Restoration Program GROUNDWATER SAMPLING DATA

Work Dates:	2/12/2015			MW52B-95-13	-	
GENERAL INFORMAT				100 - 100		ר
Field Personnel (Print):	Jim Chiu			ID Towns (0	\	-
Well Diameter (in):				Purge Taget Volume (3 x c		-4
Total Depth (h ₂) (ft):				Total Volume Purged (gal):		4
Initial Depth-to-Water (D)⊤W) (ft):			Did well go dry? (y/n)	no	_
Water Column (H) (ft):				Post sample DTW (ft):	22.2	
Casing Volume (c _v) (gal):		0.48	<u> </u>	<u> </u>	j
CALIBRATION						
Instrument Name	Instruma	nt Number	Date	Calibration Res		Initial
					alibrated? (Y/N)	
HACH	Н	240d	2/12/2015		Yes	JKC
				pH 10.01	Yes	JKC
				1000 μs/cm	Yes	JKC
MATERIALS USED Peristoltic Pump	V	Notes:				
Peristoltic Pump	<u> </u>	Notes:				
Rediflow Pump Sample Bottles	<u> </u>					
Teflon Bailer	<u> </u>	+				
Tellon baller	<u> </u>	<u> </u>				
DESCRIPTION OF WO						
Pumped 3 cvs- collected	samples					
	<u>. </u>					
			· · · · · · · · · · · · · · · · · · ·			

Work Dates:	2/12/2015	Well Number:	MW52B-95-13

Casing Volume	Time	Cummulative Volume (Gallons)	Temperature (°C)	рН	Conductivity (µs/cm)	Qualitative Observations (color, turbidity, odors, sediment
Beginning	7:28	0.00	15.4	7.00	539	Clear
0.5 cv	7:30	0.24	16.4	7.02	527	Clear
1.0 cv	7:32	0.48	16.9	7.06	526	Clear
1.5 cv	7:35	0.73	17.0	7.02	524	Clear
2.0 cv	7:37	0.97	17.0	7.05	528	Clear
2.5 cv	7:40	1.21	17.0	7.04	530	Clear
3.0 cv	7:42	1.45	17.1	7.05	532	Clear
CV						
CV						
CV						
cv						

Sample Date	Sample Time	Sample Number	Analysis Requested	Sampler's Initials	Chain-of-Custody Number
2/12/2015	7:45	2-15-54	PCB's	JKC/NS	

ACKNOWLEDGMENT Prepared by (print):	AND REVIEW Jim Chiu		Date:	2/12/2015
Other Field Personnel:				
Reviewed by (sign):	David Baskin	Digitally signed by David Baskin DN: cn=David Baskin, o=LBNL, ou=ESG, email=dabaskin@lbl.gov, c=US	_ _ Date: _	

Work Dates: 2/11/2015

Lawrence Berkeley National Laboratory Environmental Restoration Program GROUNDWATER SAMPLING DATA

Well Number: MW53-93-9

GENERAL INFORMATI	ION						
Field Personnel (Print):	Jim Chiu, Ne	el Singh					
Well Diameter (in):			2	Purge Taget Volume ($3 \times c_v$) (gal)	14.69	
Total Depth (h ₂) (ft):			87.7	Total Volume Purged ((gal): (3 c _v)	14.69	
Initial Depth-to-Water (D)⊤W) (ft):			Did well go dry? (y/n)		N	
Water Column (H) (ft):				Post sample DTW (ft):		58.13	
Casing Volume (c _v) (gal):	,	4.90				
CALIBRATION							
Instrument Name	Instrumen	t Number	Date	Calibration			Initial
				Standard	Calibrated?		
HACH	HQ	40d	2/11/2015	0		es	JKC
				pH 10.01		es	JKC
				1000 µs/cm	Y	es	JKC
			!,	U			
MATERIALS USED Peristoltic Pump	F	Notes:					
Rediflow Pump	<u> </u>	 					
Sample Bottles Teflon Bailer	<u> </u>						
Tellori Dallei	<u> </u>	<u> </u>					
DESCRIPTION OF WO							
Pumped 3 cvs- collected	d samples						
						···	
		··········					
			· · · · · · · · · · · · · · · · · · ·				

Work Dates:	2/11/2015	Well Number:	MW53-93-9
TTOIK DUICS.	-/ 11/EV 10	Well Halliber.	1111100-00-0

WAILN QU	ALII DA	17				
Casing Volume	Time	Cummulative Volume (Gallons)	Temperature (°C)	рН	Conductivity (µs/cm)	Qualitative Observations (color, turbidity, odors, sediment
Beginning	9:55	0.00	16.6	7.21	513	semi-turbid, brownish color
0.5 cv	9:56	2.45	16.7	7.10	532	semi-turbid, brownish color
1.0 cv	9:58	4.90	18.5	7.05	531	semi-turbid, brownish color
1.5 cv	9:59	7.35	18.8	7.05	531	semi-clear
2.0 cv	10:03	9.80	18.7	7.38	533	semi-clear
2.5 cv	10:04	12.25	19.0	7.18	533	clear
3.0 cv	10:06	14.69	19.5	7.13	533	clear
cv	,					
cv						
CV						
cv						

Sample Date	Sample Time	Sample Number	Analysis Requested	Sampler's Initials	Chain-of-Custody Number
2/11/2015	10:10	2-15-48	PCB's	JKC/NS	

ACKNOWLEDGMENT	AND REVIEW			
Prepared by (print):	Jim Chiu		Date:	2/11/2015
Other Field Personnel:	Neel Singh		-	
Reviewed by (sign):	<u>David Baskin</u>	Digitally signed by David Baskin DN: cn=David Baskin, o=LBNL, ou=ESG, email=dabaskin@tbl.gov, c=US Date: 201930224003737-20000	_ Date: _	

Lawrence Berkeley National Laboratory Environmental Restoration Program GROUNDWATER SAMPLING DATA

Work Dates:	2/11	/2015	<u> </u>	Well Number:	MW53-96-1	-
GENERAL INFORMAT						1
Field Personnel (Print):	Jim Chiu, Ne	el Singh	- 1	In	\	1
Well Diameter (in):				Purge Taget Volume (3 x c		4
Total Depth (h ₂) (ft):				Total Volume Purged (gal):	(3 c _v) 69.05	
Initial Depth-to-Water (D	DTW) (ft):			Did well go dry? (y/n)	N	
Water Column (H) (ft):				Post sample DTW (ft):	75.5	
Casing Volume (c _v) (gal	<u>):</u>		23.02			J
CALIBRATION						
Instrument Name	Instrume	nt Number	Date	Calibration Resu Standard Ca	ılts alibrated? (Y/N)	Initial
HACH	HC	140d	2/11/2015		Yes	JKC
				pH 10.01	Yes	JKC
				1000 μs/cm	Yes	JKC
MATERIALS USED		IN -4				
Peristoltic Pump Rediflow Pump		Notes:				
Sample Bottles	<u> </u>					
Teflon Bailer	<u> </u>					
DESCRIPTION OF WO	DV DONE					
DESCRIPTION OF WO Pumped 3 cvs- collected						
r uniped 5 cvs- collected	a samples					
						:
				<u> </u>		
						

Work Dates:	2/11/2015	Well Number: MW53-96-1	

Cooing		Cummulative	Temperature		Conductivity	Qualitative Observations (color,
Casing Volume	Time	Volume (Gallons)	(°C)	pН	Conductivity (µs/cm)	turbidity, odors, sediment
Beginning	11:43	0.00	17.6	7.20	646	clear
0.5 cv	11:47	11.51	19.2	7.00	616	clear
1.0 cv	11:50	23.02	19.8	6.98	607	clear
1.5 cv	11:53	34.53	20.2	7.00	606	clear
2.0 cv	11:57	46.03	20.2	7.00	606	clear
2.5 cv	12:00	57.54	20.1	6.99	607	clear
3.0 cv	12:04	69.05	20.0	6.99	608	clear
CV						
CV						
CV						
cv						

Sample Date	Sample Time	Sample Number	Analysis Requested	Sampler's Initials	Chain-of-Custody Number
2/11/2015	12:10	2-15-50	PCB's	JKC/NS	
				-	

ACKNOWLEDGMENT	AND REVIEW			
Prepared by (print):	Jim Chiu		Date:	2/11/2015
Other Field Personnel:	Neel Singh			
Reviewed by (sign):	David Baskin	Digitally sepred by Dand Baskn Dir cre-Dand Baskn, out Bit, own 5 G, creal-risbbasknaptid gar, c+ US	 Date: _	

Work Dates:	2/11	/2015		Well Number:	MW5-93-10	
GENERAL INFORMATI		······································				,
Field Personnel (Print):	<u>Jim Chiu, Ne</u>	el Singh				
Well Diameter (in):			2	Purge Taget Volume (3 x c _v)		1
Total Depth (h ₂) (ft):				Total Volume Purged (gal):	(3 c _v) 10.38	
Initial Depth-to-Water (D	·TW) (ft):			Did well go dry? (y/n)	N	
Water Column (H) (ft):			21.22	Post sample DTW (ft):	20.5	
Casing Volume (c _v) (gal)) :		3.46			
CALIBRATION				0.17.6		
Instrument Name	Instrumer	nt Number	Date		Its Ilibrated? (Y/N)	Initial
HACH	HC	Q40d	2/11/2015		Yes	JKC
				pH 10.01	Yes	JKC
				1000 μs/cm	Yes	JKC
				<u> </u>		l
MATERIALS USED Peristoltic Pump		Notes:	принципальный пр		,	
Rediflow Pump	V					
Sample Bottles	V	1				
Teflon Bailer	V					
DESCRIPTION OF WOR				•		
					·	
				,		

Work Dates:	2/11/2015	Well Number:	MW5-93-10
		-	

Casing Volume	Time	Cummulative Volume (Gallons)	Temperature (°C)	рН	Conductivity (µs/cm)	Qualitative Observations (color, turbidity, odors, sediment
Beginning	8:49	0.00	12.7	7.79	882	cloudy
0.5 cv	8:50	1.73	15.8	7.27	520	cloudy
1.0 cv	8:52	3.46	17.0	7.18	510	clear
1.5 cv	8:53	5.19	17.2	7.16	513	clear
2.0 cv	8:55	6.92	17.6	7.15	510	clear
2.5 cv	8:56	8.65	17.7	7.15	506	clear
3.0 cv	8:57	10.38	17.8	7.15	502	clear
CV						
cv						
CV						
cv						

Sample Date	Sample Time	Sample Number	Analysis Requested		Chain-of-Custody Number
2/11/2015	9:00	2-15-46	PCB's	JKC/NS	
ļ					

ACKNOWLEDGMENT A	AND REVIEW			
Prepared by (print):	Jim Chiu		Date: _	2/11/2015
Other Field Personnel:	Neel Singh			
_				
Reviewed by (sign):	David Baskin	Digitally signed by Dend Baskin ON con-David Baskin out 856, out 55, cmall-rebaskingth) one call's	Date: _	

Work Dates: _	2/11	/2015		Well Number: _	MW7-92-16	,
GENERAL INFORMATION				and the second s		1
Field Personnel (Print): .	<u>Jim Chiu, Ne</u>	el Singh			····. 1	
Well Diameter (in):				Purge Taget Volume (3 x c _v) (
Total Depth (h ₂) (ft):				Total Volume Purged (gal):	(3 c _v) 18.96	l
Initial Depth-to-Water (D	TW) (ft):			Did well go dry? (y/n)	N	l
Water Column (H) (ft):				Post sample DTW (ft):	22.2	
Casing Volume (c _v) (gal)):		6.32			
CALIBRATION				Calibration Results	<u> </u>	
Instrument Name		nt Number	Date	Standard Cali	brated? (Y/N)	Initial
HACH	нс)40d	2/11/2015		Yes	JKC
				pH 10.01	Yes	JKC
				1000 μs/cm	Yes	JKC
MATERIALS USED	<u> </u>	Notes:				
Peristoltic Pump Rediflow Pump	<u> </u>	Notes.				
Sample Bottles	<u> </u>	<u> </u>	 			
Teflon Bailer	<u> </u>					
DESCRIPTION OF WOF Pumped 3 cvs- collected						
	<u></u>					

Work Dates:	2/11/2015	Weil Number:	MW7-92-16

WAILK GO	ALII I DA	17				
Casing Volume	Time	Cummulative Volume (Gallons)	Temperature (°C)	рН	Conductivity (µs/cm)	Qualitative Observations (color, turbidity, odors, sediment
Beginning	11:13	0.00	17.7	7.15	496	semi-turbid, brownish color
0.5 cv	11:15	3.16	18.4	6.95	452	clear
1.0 cv	11:17	6.32	18.8	6.94	420	clear
1.5 cv	11:19	9.48	19.0	6.96	412	clear
2.0 cv	11:21	12.64	19.0	6.97	408	clear
2.5 cv	11:23	15.80	19.1	6.98	407	clear
3.0 cv	11:24	18.96	19.0	6.98	406	clear
cv						
cv						
CV						
CV						

Sample Date	Sample Time	Sample Number	Analysis Requested	Sampler's Initials	Chain-of-Custody Number
2/11/2015	11:30	2-15-49	PCB's	JKC/NS	
			<u> </u>		

ACKNOWLEDGMENT	AND REVIEW			
Prepared by (print):	Jim Chiu		Date	2/11/2015
Other Field Personnel:	Neel Singh			
Reviewed by (sign):	David Baskin	Deptidy spreed by David Backer Dit crafton Backer and Mit, comit for completely give cast/5 David Mit Land Mit All Comit of Comit	Date	•

Work Dates: <u>2/11/2015</u>			_	Well Number: MW90-2			
GENERAL INFORMAT	ION						
Field Personnel (Print):	Jim Chiu, Ne	el Singh				1	
Well Diameter (in):			2	Purge Taget Volume (3 x	c _v) (gal) 8.20	1	
Total Depth (h ₂) (ft):				Total Volume Purged (gal		1	
Initial Depth-to-Water ([OTW) (ft):			Did well go dry? (y/n)	′ ` '/ N	_	
Water Column (H) (ft):	, (, .		16.75	Post sample DTW (ft):	29.43		
Casing Volume (c _v) (ga	I):		2.73				
CALIBRATION							
CALIBRATION				Calibration Re	oulto	1	
Instrument Name	Instrumer	nt Number	Date		Calibrated? (Y/N)	Initial	
HACH	HC	40d	2/11/2015		Yes	JKC	
		·		pH 10.01	Yes	JKC	
				1000 μs/cm	Yes	JKC	
MATERIALS USED Peristoltic Pump		Notes:					
Rediflow Pump	V						
Sample Bottles	V						
Teflon Bailer	V	L					
DESCRIPTION OF WO							
				12-14-1			
					W-AS		

Work Dates:	2/11/2015	Well Number:	MW90-2

WATER QUALITY DATA

WATER QUALITY DATA							
Casing Volume	Time	Cummulative Volume (Gallons)	Temperature (°C)	рН	Conductivity (µs/cm)	Qualitative Observations (color, turbidity, odors, sediment	
Beginning	12:26	0.00	19.5	7.92	531	semi-turbid, dark grey sediment	
0.5 cv	12:27	1.37	21.6	7.34	531	semi-clear	
1.0 cv	12:28	2.73	21,1	7.14	329	clear	
1.5 cv	12:29	4.10	20.8	6.91	329	clear	
2.0 cv	12:30	5.46	20.5	6.86	566	clear	
2.5 cv	12:30	6.83	20.2	6.82	572	clear	
3.0 cv	12:31	8.20	20.2	6.79	575	clear	
CV							
CV							
CV							
cv							

SAMPLE INFORMATION

Sample Date	Sample Time	Sample Number	Analysis Requested	Sampler's Initials	Chain-of-Custody Number
2/11/2015	12:35	2-15-51	PCB's	JKC/NS	
2/11/2015	12:40	2-15-52	8260	JKC/NS	

ACKNOWLEDGMENT Prepared by (print):	AND REVIEW Jim Chiu		Date:	2/11/2015
Other Field Personnel:			<u> </u>	
Reviewed by (sign):	David Baskin	Depths speed to fined basis. Proceedings of the Control of the Co	Date: _	

Lawrence Berkeley National Laboratory Environmental Restoration Program GROUNDWATER SAMPLING DATA

Work Dates:	2/11/	/2015	_	Well Number: _	MW91-9	•
GENERAL INFORMATION						•
Field Personnel (Print): .	Jim Chiu, Nee	<u>∍l Singh</u>				ļ
Well Diameter (in):				Purge Taget Volume (3 x c _v)		4
Total Depth (h ₂) (ft):			38.5	Total Volume Purged (gal):	(3 c _v) 10.45	
Initial Depth-to-Water (D	TW) (ft):		17.15	Did well go dry? (y/n)	N	
Water Column (H) (ft):			21.35	Post sample DTW (ft):	18.3	
Casing Volume (c _v) (gal)) :		3.48			
CALIBRATION		· N	T 2-4-	Calibration Result	s	l,,,
Instrument Name	Instrumen	nt Number	Date		ibrated? (Y/N)	Initial
HACH	HQ	40d	2/11/2015		Yes	JKC
				pH 10.01	Yes	JKC
				1000 μs/cm	Yes	JKC
MATERIALS USED			·			
Peristoltic Pump		Notes:				
Rediflow Pump	<u>V</u>					
Sample Bottles Teflon Bailer	N.					
		<u> </u>				
Pumped 3 cvs- collected						
Fulliped 5 Gva- collected	Samples					

Work Dates:	2/11/2015	Well Number:	MW91-9
			

WATER QUALITY DATA

Casing Volume	Time	Cummulative Volume (Gallons)	Temperature (°C)	рН	Conductivity (µs/cm)	Qualitative Observations (color, turbidity, odors, sediment
Beginning	8:30	0.00	11.3	7.44	388	semi-turbid - cloudy
0.5 cv	8:31	1.74	15.6	7.24	543	semi-turbid - cloudy
1.0 cv	8:32	3.48	15.9	7.22	538	semi-clear
1.5 cv	8:33	5.22	17.2	7.22	536	semi-clear
2.0 cv	8:34	6.96	17.5	7.23	535	clear
2.5 cv	8:35	8.71	17.6	7.25	534	clear
3.0 cv	8:36	10.45	17.7	7.26	534	clear
cv						
cv						
CV				_		
cv						

SAMPLE INFORMATION

Sample Date	Sample Time	Sample Number	Analysis Requested		Chain-of-Custody Number
2/11/2015	8:40	2-15-45	PCB's	JKC/NS	

ACKNOWLEDGMENT Prepared by (print):	AND REVIEW Jim Chiu		Date:	2/11/2015
Other Field Personnel:	Neel Singh		- - -	
Reviewed by (sign):	David Baskin	Digitally signed by David Basin. Dit on David Basin o LIME, or ESC omat classes report gos; c: US Dis State All America Landers.	_ Date: _	

Lawrence Berkeley National Laboratory Environmental Restoration Program GROUNDWATER SAMPLING DATA

Work Dates:	2/10/15	5,2/12/15	<u> </u>	Well Number: Si	B16-97-11	
GENERAL INFORMAT						•
Field Personnel (Print):	Jim Chiu, Ne	el Singh				
Well Diameter (in):			2	Purge Taget Volume (3 x c _v) (gal) 1.13	
Total Depth (h ₂) (ft):			25.1	Total Volume Purged (gal): (c	· _v) 0.6	
Initial Depth-to-Water (I	OTW) (ft):		22.8	Did well go dry? (y/n)	yes	
Water Column (H) (ft):	, , ,			Post sample DTW (ft):	dry	
Casing Volume (c _v) (ga	I):		0.38			
CALIBRATION						
	Γ			Calibration Results		
Instrument Name	Instrumei	nt Number	Date		ted? (Y/N)	Initial
HACH	HC	140d	2/10/2015		Yes	JKC
				pH 10.01	Yes	JKC
				1000 µs/cm	Yes	JKC
MATERIALS USED Peristoltic Pump	l F	Notes:				
Rediflow Pump	Γ					
Sample Bottles	V					
Teflon Bailer	V					
DESCRIPTION OF WO			,,,,			
Bailed well dry, returned	1 2/12/15 to sa	mpies				
			 			
			4			
						······································

				•		
						

Work Dates:	2/10/15,2/12/15	Well Number:	SB16-97-11

WATER QUALITY DATA

WAI EN QU	ALII DA	<u> </u>				
Casing Volume	Time	Cummulative Volume (Gallons)	Temperature (°C)	pН	Conductivity (µs/cm)	Qualitative Observations (color, turbidity, odors, sediment
Beginning	13:59	0.00	17.1	6.88	773	Semi-clear
0.5 cv	14:01	0.19	18.0	6.75	609	Semi-clear
1.0 cv	14:03	0.38	18.1	6.73	543	Semi-clear
1.5 cv	14:05	0.56		·		Dry at .5 gallons
2.0 cv		0.75				
2.5 cv		0.94				
3.0 cv		1.13				
cv					-	
cv						
CV						
cv						

SAMPLE INFORMATION

Sample Date	Sample Time	Sample Number	Analysis Requested	Sampler's Initials	Chain-of-Custody Number
		0.45.55		JKC/NS	
2/12/2015	8:10	2-15-55	PCB's	JKC/NS	
2/12/2015	8:15	2-15-56	8260		
		_			

ACKNOWLEDGMENT	AND REVIEW			
Prepared by (print):	Jim Chiu		_ Date: _	2/12/2015
Other Field Personnel:	Neel Singh		-	
			_	
Reviewed by (sign):	David Baskin	Openis nyser to Caret Balor De «Alema Balor en Hill III, and relation for the Spin - 45 Day 17 to 18 18 18 18 18 18 18 18	_ Date: _	

Lawrence Berkeley National Laboratory Environmental Restoration Program GROUNDWATER SAMPLING DATA

Work Dates:	2/12/	2015		Well Number: _	SB16-98-1	•
GENERAL INFORMAT						1
Field Personnel (Print):	Jim Chiu			r=		l
Well Diameter (in):				Purge Taget Volume (3 x c _v)		l
Total Depth (h ₂) (ft):				Total Volume Purged (gal):	(c _v) 6.64	l
Initial Depth-to-Water (D)TW) (ft):			Did well go dry? (y/n)	no	
Water Column (H) (ft):			13.56	Post sample DTW (ft):	22.5	l
Casing Volume (c _v) (gal):		2.21			
CALIBRATION			T	Calibration Result		<u> </u>
Instrument Name	Instrumen	nt Number	Date		ibrated? (Y/N)	Initial
HACH	HQ	40d	2/12/2015	<u> </u>	Yes	JKC
				pH 10.01	Yes	JKC
				1000 µs/cm	Yes	JKC
MATERIALS USED Peristoltic Pump		Notes:				
Rediflow Pump						
Sample Bottles	V					
Teflon Bailer	\					
DESCRIPTION OF WO Bailed 3 cvs- collected s						
				•		
	p					
			•			
<u> </u>						
·						

Work Dates:	2/12/2015	Well Number:	SB16-98-1

WATER QUALITY DATA

Casing Volume	Time	Cummulative Volume (Gallons)	Temperature (°C)	рН	Conductivity (µs/cm)	Qualitative Observations (color, turbidity, odors, sediment
Beginning	8:25	0.00	15.7	7.33	552	turbid brown
0.5 cv	8:28	1.11	17.0	7.32	553	turbid brown
1.0 cv	8:31	2.21	17.4	7.34	555	turbid brown
1.5 cv	8:35	3.32	17.4	7.38	551	turbid brown
2.0 cv	8:37	4.42	17.4	7.35	554	turbid brown
2.5 cv	8:42	5.53	17.4	7.37	555	turbid brown
3.0 cv	8:44	6.64	17.4	7.41	552	turbid brown
cv						
cv						
cv					1995	
cv						

SAMPLE INFORMATION

Sample Date	Sample Time	Sample Number	Analysis Requested	Sampler's Initials	Chain-of-Custody Number
2/12/2015	8:50	2-15-57	PCB's	JKC	
2/12/2015	8:55	2-15-58	8260	JKC	

ACKNOWLEDGMENT	AND REVIEW			
Prepared by (print):	Jim Chiu		Date:	2/12/2015
Other Field Personnel:				
				
			_	
Reviewed by (sign):	David Baskin	Digitally signed by David Baskin DN: cn=David Baskin, o=LBNL, ou=ESG, email=dabaskin@lbl gov, c=US	Date: _	

Lawrence Berkeley National Laboratory Environmental Restoration Program GROUNDWATER SAMPLING DATA

Work Dates:	2/11	/2015		Well Number:	: SB7-97-1	
GENERAL INFORMATION						1
Field Personnel (Print): .	Jim Chiu, Ne	el Singh				
Well Diameter (in):				Purge Taget Volume (3 x c		
Total Depth (h ₂) (ft):				Total Volume Purged (gal):	(<1.5c _v) 5	
Initial Depth-to-Water (D	TW) (ft):			Did well go dry? (y/n)	Y]
Water Column (H) (ft):			24.01	Post sample DTW (ft):	17.7	İ
Casing Volume (c _v) (gal)):		3.92			
CALIBRATION			T 2.4	Calibration Res	ults	1 25-1
Instrument Name	Instrumer	nt Number	Date		alibrated? (Y/N)	Initial
HACH	HC	40d	2/11/2015		Yes	JKC
				pH 10.01	Yes	JKC
				1000 μs/cm	Yes	JKC
MATERIALS USED Peristoltic Pump		Notes:	<u></u>			
Rediflow Pump	₹					
Sample Bottles	V					
Teflon Bailer	V					
DESCRIPTION OF WOR		collect samp	le			
					200	
						
			<u></u>			-
·						
			**			

Work Dates:	2/11/2015	Well Number:	SB7-97-1

WATER QUALITY DATA

Casing Volume	Time	Cummulative Volume (Gallons)	Temperature (°C)	рН	Conductivity (µs/cm)	Qualitative Observations (color, turbidity, odors, sediment
Beginning	10:56	0.00	16.0	7.87	735	clear
0.5 cv	10:58	1.96	17.0	7.56	311	semi-turbid, brownish color
1.0 cv	11:01	3.92	17.5	7.19	308	semi-turbid, brownish color
1.5 cv	-	5.87	-	-	-	dry at 5 gal
2.0 cv		7.83				
2.5 cv	-	9.79				
3.0 cv		11.75				
CV						
cv						
cv						
CV						

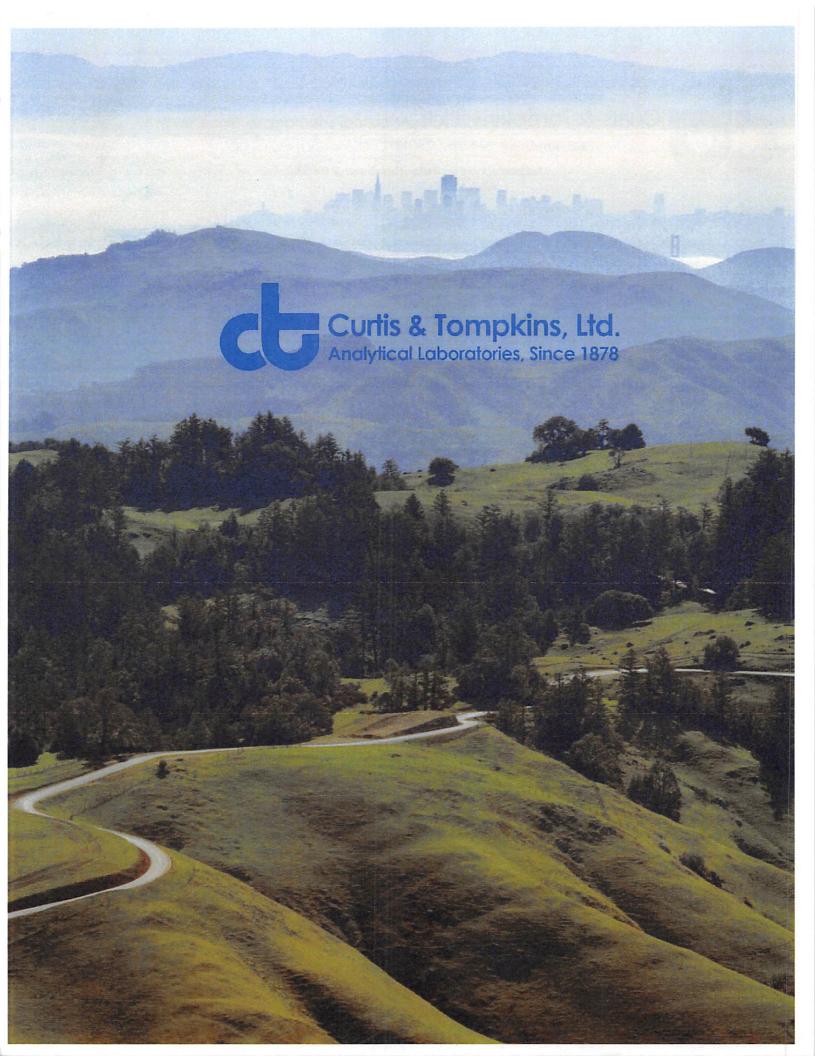
SAMPLE INFORMATION

Sample Date	Sample Time	Sample Number	Analysis Requested	Sampler's Initials	Chain-of-Custody Number
2/12/2015	7:10	2-15-53	PCB's	JKC/NS	
				-	
				_	

ACKNOWLEDGMENT	AND REVIEW			
Prepared by (print):	Jim Chiu		Date: _	2/12/2015
Other Field Personnel:	Neel Singh			
Reviewed by (sign):	David Baskin	Deptify spread by David Baken Dist on-David Baken on-Maken spread for main-tailburkensplick gas on 1-1/5 David 2016 121 And And 222 And 222	Date: _	

Attachment 5

Analytical Report





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 9471O, Phone (510) 486-0900

Laboratory Job Number 264562 ANALYTICAL REPORT

Lawrence Berkeley National Lab Project : STANDARD
1 Cyclotron Road Location : GWMP - Old Town Groundwater PCBs

Berkeley, CA 94720 Level : II

Sample ID	Lab ID
75187	264562-001
75191	264562-002
75192	264562-003

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature:

Isabelle Chov Project Manager isabelle.choy@ctberk.com

CA ELAP# 2896, NELAP# 4044-001

Isabelle Charj

Date: 02/18/2015



CASE NARRATIVE

Laboratory number:

264562

Client: Location: Lawrence Berkeley National Lab GWMP - Old Town Groundwater PCBs

Request Date:

02/10/15

Samples Received:

02/10/15

This data package contains sample and QC results for three water samples, requested for the above referenced project on 02/10/15. The samples were received on ice and intact. All holding times and calibration criteria were met.

PCBs (EPA 8082):

All samples underwent sulfuric acid cleanup using EPA Method 3665A. All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. No analytical problems were encountered.

264562

2

2

2

None

None

None

1 Liter AG

1 Liter AG

1 Liter AG

U.C. Lawrence Berkeley National Laboratory 1 Cyclotron Road Berkeley CA 94720

LBNL ENVIRONMENTAL RESTORATION **Chain of Custody**

2-15-36

2-15-37

2-15-38

Date

Printed Name

Company

Send final reports to: Suying Xu, Mailstop 75B0101

Send preliminary results to: Iraj Javandel, e-mail: IJavandel@lbl.gov

Phone: 510-486-6106

2/10/2015 9:45

2/10/2015 10:30

2/10/2015 10:50

75187

75191

75192

Fax: 510-486-8694

2/10/2015 9:45

2/10/2015 10:30

2/10/2015 10:50

Purpose: Groundwater Monitoring Program - Old Town Groundwater Sampling in PCBs, Feb 2015

Aqueous

Aqueous

Aqueous

Printed Name

Company

COC No.: 08339

Page 1 of 1

Date

Collection(s): 7698

E8082A

E8082A

E8082A

otal No. of Containers: 6	Retinquished By (Sampler)	Relinquished By		Relinquished By	
Shipping Document ID:	7 - (2:5)			.11	
Turnaround Time****: 5 days	Signature Time	Signature	Time	Signature	Time
ab Name: CURTISTOMP	Jimmy KCHIU 2/10/15			[]	
ampled by:	Printed Name Date	Printed Name	Date	Printed Name	Date
JKC	LBNL			[]	
•	Company	Company		Сотрапу	
posial Instructional/Comments	Received By	Received By		Received By	
pecial Instructions/Comments:	1 7 mg () 1 25	וט			
SAMPLES Delivered	Signature Time	Signature	Time	Signature	Time
SAmples Delivered EN Blue ICE	Tom Baba 3101	Hr.]] .	
EN RINS ICE	Printed Name Date	Printed Name	Date	Printed Name	Date

Printed Name

Company

^{*}REFERENCE DATE/TIME: Use this value for decay calculations in radiological analyses when applicable **Container Codes: AG = amber glass CG = clear glass PE = polyethylene VV = VOA vial *** Field Sample ID: If present, use this information as the sample identifier in hard-copy reports (please include Sample Location information in the notes). If blank, and in electronic deliverable files, use Sample Location as the identifier. ****Listed turnaround time is for reporting and is in work days, as defined in the Joint LBNL/LLNL Analytical Services blanket order.

COOLER RECEIPT CHECKLIST



Login # 266 Client <u>LBNL</u>	4562	Date	Received	d <u>2/15/</u> Project_(SWMP-	Number of	cooler	s	water
Date Opened Date Logged in	2/10 1	By (print)_ By (print)_	B/		(sign)_ (sign)_	K V	7		
1. Did cooler co	ome with a	shipping sli	ip (airbill,	etc)			_YES	000)
2A. Were custo How ma		resent?						Æ.) NO
2B. Were custody 4. Were custody 5. Is the project 6. Indicate the p	dy seals in papers dr papers fil identifiab	tact upon ar y and intact lled out prop le from cust	rival? when rec erly (ink, tody pape	eived? signed, e rs? (If so	etc)? fill out top	of form)_	YES VES VES	NO NO	
⊠ Bubble ☐ Cloth 7. Temperature	material	☐ Foam ☐ Cardb ation:	oard	☐ St	yrofoam			wels	-
Type of	ice used:	☐ Wet	⊠ Blue/C	Gel 🔲	None	Temp(°C))		
□ Samp	les Receiv	ed on ice &	cold with	out a ten	perature b	lank; temp	taken	with	IR gun
		ed on ice dir			-	-			
8. Were Method	d 5035 san		iners pres	sent?					33 00
9. Did all bottle							ą	ŒŊ	
10. Are there an	y missing	/ extra samp	oles?					YES	ND
11. Are samples	in the app	propriate cor	ntainers fo	r indicate	ed tests?			ŒS	NO
12. Are sample	labels pres	ent, in good	condition	and con	aplete?	 	}	Œ	
13. Do the samp	ile labels a	gree with cu	istody par	pers?	. 10			YESO	
14. Was sufficie								ES	
15. Are the samp							_		
16. Did you che	ck preserv	auves for at	i pomes i	or each sa	ampie!		YES		
17. Did you doc 18. Did you cha	ument you	ır preservau 1d time in T	ve check? IMS for 11		od VO 4 e2		YES	NO.	N/25
19. Did you cha									
20. Are bubbles									
21. Was the clie	nt contacte	ed concernir	o this san	nnle delis	verv?		_125 V	ES	(A)
If YES,	Who was o	called?		By_			Date:_	LU	
COMMENTS									
					-				
									_



Detections Summary for 264562

Results for any subcontracted analyses are not included in this summary.

Client : Lawrence Berkeley National Lab

Project : STANDARD

Location : GWMP - Old Town Groundwater PCBs

Client Sample ID: 75187 Laboratory Sample ID: 264562-001

No Detections

Client Sample ID: 75191 Laboratory Sample ID: 264562-002

No Detections

Client Sample ID: 75192 Laboratory Sample ID: 264562-003

No Detections



Polychlorinated Biphenyls (PCBs) CA ELAP# 2896, NELAP# 4044-001 EPA 3520C Lab #: 264562 Cert #: Client: Prep: Lawrence Berkeley National Lab Project#: STANDARD Analysis: EPA 8082 Location: GWMP - Old Town Groundwater PCBs 1.000 220278 08339 COC #: Diln Fac: Requested: E8082A Batch#: Matrix: Water Instrument: GC16 Received: 02/10/15

Field ID: 02/10/15 09:45 75187 Sampled: 02/10/15 15:00 02/12/15 01:52 Type: Lab ID: SAMPLE Prepared: 264562-001 Analyzed: Chemist: AVW

Analyte	Code	Result	RL	MDL
Aroclor-1016	6450	ND	0.50	
Aroclor-1221	6500	ND	1.0	0.32
Aroclor-1232	6550	ND	0.50	
Aroclor-1242	6600	ND	0.50	
Aroclor-1248	6650	ND	0.50	
Aroclor-1254	6700	ND	0.50	
Aroclor-1260	6750	ND	0.50	

Surrogate	Code %REC	Limits
TCMX	8256 67	39-120
Decachlorobiphenyl	3111 86	28-120

02/10/15 10:30 02/10/15 15:00 Field ID: 75191 Sampled: Type: Lab ID: SAMPLE Prepared: 264562-002 Analyzed: 02/12/15 02:20 AVW Chemist:

Analyte	Code	Result	RL	MDL
Aroclor-1016	6450	ND	0.50	
Aroclor-1221	6500	ND	1.0	0.32
Aroclor-1232	6550	ND	0.50	
Aroclor-1242	6600	ND	0.50	
Aroclor-1248	6650	ND	0.50	
Aroclor-1254	6700	ND	0.50	
Aroclor-1260	6750	ND	0.50	

Surrogate	Code %REC	Limits
TCMX	8256 59	39-120
Decachlorobiphenyl	3111 81	28-120

ND= Not Detected RL= Reporting Limit MDL= Method Detection Limit

Page 1 of 2

Units:

ug/L



Polychlorinated Biphenyls (PCBs) Cert #: CA ELAP# 2896, NELAP# 4044-001 Prep: EPA 3520C Analysis: EPA 8082 Lab #: Client: 264562 Lawrence Berkeley National Lab Project#: STANDARD Location: GWMP - Old Town Groundwater PCBs
COC #: 08339 1.000 220278 GC16 Diln Fac: Requested: E8082A Batch#: Matrix: Water Instrument: ug/L 02/10/15 Units: Received:

Field ID: Type: Lab ID:

75192 SAMPLE 264562-003

Sampled: Prepared: Analyzed: 02/10/15 10:50 02/11/15 13:55 02/14/15 02:15

Chemist:

ICK

Analyte	Code	Result	RL	MDL
Aroclor-1016	6450	ND	0.50	
Aroclor-1221	6500	ND	1.0	0.32
Aroclor-1232	6550	ND	0.50	
Aroclor-1242	6600	ND	0.50	
Aroclor-1248	6650	ND	0.50	
Aroclor-1254	6700	ND	0.50	
Aroclor-1260	6750	ND	0.50	

Surrogate	Code %REC	Limits	
TCMX	8256 67	39-120	
Decachlorobiphenyl	3111 74	28-120	

Type: Lab ID: Chemist:

BLANK QC776634 AVW

Prepared: Analyzed: 02/10/15 15:00 02/11/15 22:35

Analyte	Code	Result	RL	MDL
Aroclor-1016	6450	ND	0.50	
Aroclor-1221	6500	ND	1.0	0.32
Aroclor-1232	6550	ND	0.50	
Aroclor-1242	6600	ND	0.50	
Aroclor-1248	6650	ND	0.50	
Aroclor-1254	6700	ND	0.50	
Aroclor-1260	6750	ND	0.50	

Surrogate	Code %REC	Limits	
TCMX	8256 67	39-120	and the same of th
Decachlorobiphenyl	3111 86	28-120	- C 14(10)

ND= Not Detected

RL= Reporting Limit MDL= Method Detection Limit

Page 2 of 2

2.0



Batch QC Report

	Polychlorinated	Biphenyls	(PCBs)
Lab #:	264562	Cert #: CA	ELAP# 2896, NELAP# 4044-001
Client:	Lawrence Berkeley National Lab	Prep: EPA	A 3520C
Project#:	STANDARD	Analysis: EPA	A 8082
Location:	GWMP - Old Town Groundwater PCBs		
Requested	E8082A	Batch#:	220278
Matrix:	Water	Instrument:	GC16
Units:	ug/L	Chemist:	EAH
Diln Fac:	1.000	Prepared:	02/10/15 15:00

Type: BS Lab ID: QC776635

Analyzed: 02/11/15 23:03

Analyte	Code	Spiked	Result	%REC	Limits
Aroclor-1016	6450	5.000	4.634	93	62-127
Aroclor-1260	6750	5.000	5.276	106	60-135

Surrogate	Code %REC	Limits
TCMX	8256 70	39-120
Decachlorobiphenyl	3111 97	28-120

Type:

BSD

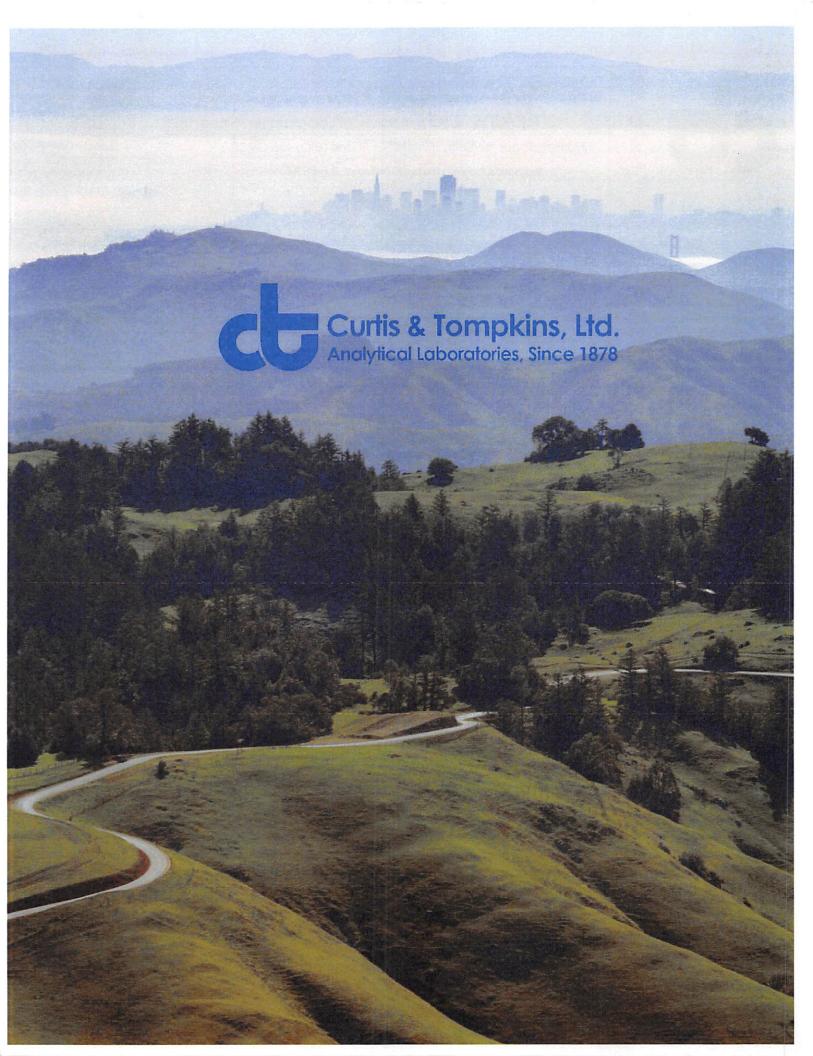
Lab ID:

QC776636

Analyzed: 02/11/15 23:31

Analyte	Code	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	6450	5.000	4.735	95	62-127	2	29
Aroclor-1260	6750	5.000	5.120	102	60-135	3	40

Surrogate	Code %REC	Limits	
TCMX	8256 79	39-120	
Decachlorobiphenyl	3111 96	28-120	





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878 2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 264626 ANALYTICAL REPORT

Lawrence Berkeley National Lab

1 Cyclotron Road

Berkeley, CA 94720

Project : STANDARD

Location : GWMP - Old Town GW Sampling in PCBs

Level : II

Sample	ID	<u>Lab ID</u>
75180		264626-001
75181		264626-002
75182		264626-003
75183		264626-004
75184		264626-005
75185		264626-006
75186		264626-007
75188		264626-008
75189		264626-009
75193		264626-010
75194		264626-011
75195		264626-012

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature:

Isabelle Choy Project Manager

isabelle.choy@ctberk.com

Isabelle Charj

CA ELAP# 2896, NELAP# 4044-001

Date: <u>02/20/2015</u>



CASE NARRATIVE

Laboratory number:

264626

Client:

Lawrence Berkeley National Lab

Location:

GWMP - Old Town GW Sampling in PCBs

Request Date:

02/12/15

Samples Received:

02/12/15

This data package contains sample and QC results for twelve water samples, requested for the above referenced project on 02/12/15. The samples were received on ice and intact. All holding times and calibration criteria were met.

PCBs (EPA 8082):

All samples underwent sulfuric acid cleanup using EPA Method 3665A. All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. No analytical problems were encountered.

U.C. Lawrence Berkeley National Laboratory 1 Cyclotron Road Berkeley CA 94720

264626

LBNL ENVIRONMENTAL RESTORATION Chain of Custody

Send final reports to: Suying Xu, Mailstop 75B0101

Send preliminary results to: Iraj Javandel, e-mail: IJavandel@lbl.gov

Phone: 510-486-6106

Fax: 510-486-8694

Purpose: Groundwater Monitoring Program - Old Town Groundwater Sampling in PCBs, Feb 2015

COC No.: 08344

Page 1 of 1

Collection(s): 7698

1	75180	2/11/2015 9:40	2/11/2015 9:40	Aqueous	1 Liter AG	2	None	E8082A	2-15-47		
2	75181	2/11/2015 8:20	2/11/2015 8:20	Aqueous	1 Liter AG	2	None	E8082A	2-15-44	5.6	12.5
3	75182	2/12/2015 8:10	2/12/2015 8:10	Aqueous	1 Liter AG	2	None	E8082A	2-15-55		
4	75183	2/12/2015 8:50	2/12/2015 8:50	Aqueous	1 Liter AG	2	None	E8082A	2-15-57		
5	75184	2/11/2015 9:00	2/11/2015 9:00	Aqueous	1 Liter AG	2	None	E8082A	2-15-46		
5	75185	2/11/2015 11:30	2/11/2015 11:30	Aqueous	1 Liter AG	2	None	E8082A	2-15-49		
1	75186	2/12/2015 7:10	2/12/2015 7:10	Aqueous	1 Liter AG	2	None	E8082A	2-15-53		
8	75188	2/11/2015 12:35	2/11/2015 12:35	Aqueous	1 Liter AG	2	None	E8082A	2-15-51		
1.	75189	2/11/2015 8:40	2/11/2015 8:40	Aqueous	1 Liter AG	2	None	E8082A	2-15-45		
٥.	75193	2/12/2015 7:45	2/12/2015 7:45	Aqueous	1 Liter AG	2	None	E8082A	2-15-54		
١.	75194	2/11/2015 10:10	2/11/2015 10:10	Aqueous	1 Liter AG	2	None	E8082A	2-15-48		
12	75195	2/11/2015 12:10	2/11/2015 12:10	Aqueous	1 Liter AG	2	None	E8082A	2-15-50		
	Shippin Turna	o. of Containers: ng Document ID: around Time**** ne: CURTISTOMP	5 days	Relinquished Signature Printed Nam	14 K CHII	3: 25 Time 2/12/1	5	Relinquished By Signature 1 - O no	1355 Time 2/12/15 Date	Relinquished By Signature	Time
	Special	t by: C/NS Instructions/Com les DUIVER CHEST WR		Company Received By		\3Z;		Company Reseived By Signature Suys UNC CAUM	1355 Time	Company Received By Signature	Date Time
	1Ce	CH25T W		Printed Nam		Date		Printed Name Company	Date	Printed Name Company	Date

*REFERENCE DATE/TIME: Use this value for decay calculations in radiological analyses when applicable **Container Codes: AG = amber glass CG = clear glass PE = polyethylene VV = VOA vial

*** Field Sample ID: If present, use this information as the sample identifier in hard-copy reports (please include Sample Location information in the notes). If blank, and in electronic deliverable files, use Sample Location as the identifier. ****Listed turnaround time is for reporting and is in work days, as defined in the Joint LBNL/LLNL Analytical Services blanket order.

COOLER RECEIPT CHECKLIST



Login # 264626 Date Received 2/12/15	Number of coolers 2
Client LBNL Project CWN2-	- Old Town Grand was
Date Opened 2/12 By (print) B1 (sign) Date Logged in	B-2
Did cooler come with a shipping slip (airbill, etc) Shipping info	YES NO
2A. Were custody seals present? YES (circle) on cooler How many Name	
2B. Were custody seals intact upon arrival? 3. Were custody papers dry and intact when received? 4. Were custody papers filled out properly (ink, signed, etc)? 5. Is the project identifiable from custody papers? (If so fill out top 6. Indicate the packing in cooler: (if other, describe)	YES NO (N) A YES NO YES NO
Bubble Wrap Foam blocks Bags Cloth material Cardboard Styrofoam 7. Temperature documentation: * Notify PM if temperature ex	☐ None ☐ Paper towels ceeds 6°C
Type of ice used: ☐ Wet ☐ Blue/Gel ☐ None	Temp(°C)
☐ Samples Received on ice & cold without a temperature bl	lank; temp. taken with IR gun
☐ Samples received on ice directly from the field. Cooling p	process had begun
3. Were Method 5035 sampling containers present? If YES, what time were they transferred to freezer?	YES KO
9. Did all bottles arrive unbroken/unopened?	YES NO
10. Are there any missing / extra samples?	YES AND
1. Are samples in the appropriate containers for indicated tests?	XES NO
Are sample labels present, in good condition and complete? Do the sample labels agree with custody papers?	YES NO
4. Was sufficient amount of sample sent for tests requested?	NO KESO NO
5. Are the samples appropriately preserved?	YES NO SYZA
6. Did you check preservatives for all bottles for each sample?	
7. Did you document your preservative check?	YES NO ATA
8. Did you change the hold time in LIMS for unpreserved VOAs?	YES NO NA
9. Did you change the hold time in LIMS for preserved terracores?	YES NO ATTAN
0. Are bubbles > 6mm absent in VOA samples?	VEC NO NAD
1. Was the client contacted concerning this sample delivery?	YES NO
If YES, Who was called?By	Date:
COMMENTS	
	· · · · · · · · · · · · · · · · · · ·
	



Detections Summary for 264626

Results for any subcontracted analyses are not included in this summary.

Client : Lawrence Berkeley National Lab

Project : STANDARD

Location : GWMP - Old Town GW Sampling in PCBs

264626-001 Laboratory Sample ID: Client Sample ID: 75180 No Detections 264626-002 Client Sample ID: 75181 Laboratory Sample ID: No Detections 264626-003 Client Sample ID : 75182 Laboratory Sample ID: No Detections 264626-004 Client Sample ID : 75183 Laboratory Sample ID : No Detections 264626-005 Laboratory Sample ID: Client Sample ID: 75184 No Detections 264626-006 Client Sample ID: 75185 Laboratory Sample ID: No Detections 264626-007 Client Sample ID : 75186 Laboratory Sample ID: No Detections 264626-008 Client Sample ID: 75188 Laboratory Sample ID: No Detections 264626-009 Client Sample ID: 75189 Laboratory Sample ID : No Detections

6.0



Client Sample ID: 75193 Laboratory Sample ID: 264626-010

No Detections

Client Sample ID: 75194 Laboratory Sample ID: 264626-011

No Detections

Client Sample ID: 75195 Laboratory Sample ID: 264626-012

No Detections



Polychlorinated Biphenyls (PCBs) Cert #: CA ELAP# 2896, NELAP# 4044-001 Prep: EPA 3520C Analysis: EPA 8082 Lab #: Client: 264626 Lawrence Berkeley National Lab Project#: STANDARD Location: GWMP - Old Town GW Sampling in PCBs 220501 02/12/15 02/17/15 14:00 E8082A Batch#: Requested: Received: Matrix: Water Units: ug/L Prepared: 1.000 Diln Fac:

Field ID:

75180

Type: Lab ID: Instrument: SAMPLE 264626-001

GC06

Chemist:

Sampled: Analyzed:

AVW

02/11/15 09:40 02/19/15 18:55

Analyte	Code	Result	RL	MDL
Aroclor-1016	6450	ND	0.48	
Aroclor-1221	6500	ND	0.96	0.31
Aroclor-1232	.6550	ND	0.48	
Aroclor-1242	6600	ND	0.48	
Aroclor-1248	6650	ND	0.48	
Aroclor-1254	6700	ND	0.48	
Aroclor-1260	6750	ND	0.48	

Surrogate	Code %REC	Limits	
TCMX	8256 68	39-120	
Decachlorobiphenyl	3111 89	28-120	

Field ID:

75181

Type:

SAMPLE 264626-002 Chemist:

Sampled: Analyzed:

02/11/15 08:20 02/19/15 19:23

Lab ID: Instrument: GC06

Analyte	Code	Result	RL	MDL
Aroclor-1016	6450	ND	0.48	3365
Aroclor-1221	6500	ND	0.96	0.31
Aroclor-1232	6550	ND	0.48	
Aroclor-1242	6600	ND	0.48	
Aroclor-1248	6650	ND	0.48	
Aroclor-1254	6700	ND	0.48	
Aroclor-1260	6750	ND	0.48	

Surrogate	Code %REC	Limits	
TCMX	8256 61	39-120	
Decachlorobiphenyl	3111 76	28-120	

ND= Not Detected RL= Reporting Limit

MDL= Method Detection Limit

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Polychlorinated Biphenyls (PCBs) Cert #: CA ELAP# 2896, NELAP# 4044-001 Prep: EPA 3520C Analysis: EPA 8082 Lab #: 264626 Lawrence Berkeley National Lab Client: Project#: STANDARD Location: GWMP - Old Town GW Sampling in PCBs Requested: E8082A 220501 02/12/15 Batch#: Requested: Matrix: Received: Water 02/17/15 14:00 Prepared: Units: Diln Fac: ug/L 1.000

Field ID: Type: Lab ID: Instrument: 75182 SAMPLE

264626-003 GC06

Chemist: Sampled:

Analyzed:

AVW

02/12/15 08:10 02/19/15 19:50

	Code	Result	RL	MDL
Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1242	6450 6500 6550 6600	ND ND ND ND	0.48 0.96 0.48 0.48	0.31
Aroclor-1248 Aroclor-1254 Aroclor-1260	6650 6700 6750	ND ND ND	0.48 0.48 0.48	

Code %REC Surrogate 39-120 28-120 8256 65 3111 83 Decachlorobiphenyl

Field ID:

75183 SAMPLE Type: Lab ID: 264626-004 Instrument: GC06

Chemist: Sampled: Analyzed:

AVW 02/12/15 08:50 02/19/15 20:18

Anglerto.	Code	Result	RL	MDL
Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1242 Aroclor-1248	6450 6500 6550 6600 6650 6700	ND ND ND ND ND ND	0.48 0.96 0.48 0.48 0.48	0.31
Aroclor-1254 Aroclor-1260	6750	ND	0.48	

Code %REC	Limits	
8256 41	39-120	
3111 39	28-120	
	8256 41 3111 39	8256 41 39-120 3111 39 28-120

ND= Not Detected RL= Reporting Limit MDL= Method Detection Limit

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Polychlorinated Biphenyls (PCBs) Cert #: CA ELAP# 2896, NELAP# 4044-001 Prep: EPA 3520C Analysis: EPA 8082 Lab #: Client: 264626 Client: Lawrence Berkeley National Lab Project#: STANDARD Location: GWMP - Old Town GW Sampling in PCBs 220501 02/12/15 02/17/15 14:00 Requested: E8082A Batch#: Received: Matrix: Water Units: Diln Fac: ug/L 1.000 Prepared:

Field ID: Type: Lab ID:

Instrument:

75184 SAMPLE 264626-005

GC06

Chemist:

Sampled: Analyzed:

AVW 02/11/15 09:00 02/19/15 20:45

Analyte	Code	Result	RL	MDL
Aroclor-1016	6450	ND	0.48	
Aroclor-1221	6500	ND	0.96	0.31
Aroclor-1232	6550	ND	0.48	
Aroclor-1242	6600	ND	0.48	
Aroclor-1248	6650	ND	0.48	
Aroclor-1254	6700	ND	0.48	
Aroclor-1260	6750	ND	0.48	

Surrogate	Code %REC	Limits	
TCMX	8256 56	39-120	
Decachlorobiphenyl	3111 68	28-120	

Field ID:

75185 SAMPLE

264626-006

Chemist:

AVW

02/11/15 11:30 02/19/15 21:13 Sampled: Analyzed:

Type: Lab ID: Instrument: GC06

Analyte	Code	Result	RL	MDL
Aroclor-1016	6450	ND	0.48	
Aroclor-1221	6500	ND	0.96	0.31
Aroclor-1232	6550	ND	0.48	
Aroclor-1242	6600	ND	0.48	
Aroclor-1248	6650	ND	0.48	
Aroclor-1254	6700	ND	0.48	
Aroclor-1260	6750	ND	0.48	

Surrogate	Code %REC	Limits	31602
TCMX	8256 56	39-120	
Decachlorobiphenyl	3111 65	28-120	

ND= Not Detected

RL= Reporting Limit

MDL= Method Detection Limit

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Polychlorinated Biphenyls (PCBs) Cert #: CA ELAP# 2896, NELAP# 4044-001 Prep: EPA 3520C Analysis: EPA 8082 264626 Lab #: Lawrence Berkeley National Lab Client: Project#: STANDARD Location: GWMP - Old Town GW Sampling in PCBs Requested: E8082A 220501 02/12/15 Batch#: Requested: Received: Water Matrix: 02/17/15 14:00 Prepared: ug/L 1.000 Units: Diln Fac:

Field ID: Type: Lab ID:

75186 SAMPLE

264626-007

Chemist:

Analyzed:

Sampled:

AVW

02/12/15 07:10 02/19/15 21:40

GC06 Instrument:

Analyte	Code	Result	RL	MDL
	6450	ND	0.48	0.31
Aroclor-1016 Aroclor-1221	6500	ND	0.96	0.31
Aroclor-1232	6550	ND	0.48	
Aroclor-1242	6600	ND	0.48	
Aroclor-1242	6650	ND	0.48	
Aroclor-1254	6700	ND	0.48	
Aroclor-1260	6750	ND	0.48	

Cumpagata	Code %REC	Limits	
Surrogate	8256 60	39-120	
TCMX	2111 63	28-120	
Decachlorobiphenyl	3111 03	20 120	

Field ID:

Type: Lab ID: Instrument:

Aroclor-1260

75188 SAMPLE 264626-008 Chemist: Sampled: Analyzed:

0.48

0.48

02/11/15 12:35 02/19/15 22:08

GC06 MDL RL Result Code Analyte 0.48 ND 6450 Aroclor-1016 0.31 0.96 ND 6500 Aroclor-1221 0.48 6550 ND Aroclor-1232 0.48 6600 Aroclor-1242 ND 0.48 Aroclor-1248 Aroclor-1254 ND 6650

ND

ND

6700

6750

Surrogate	Code %REC	Limits	
TCMX	8256 60	39-120	
Decachlorobiphenyl	3111 74	28-120	

ND= Not Detected RL= Reporting Limit MDL= Method Detection Limit Page 4 of 7



Polychlorinated Biphenyls (PCBs) Cert #: CA ELAP# 2896, NELAP# 4044-001 Prep: EPA 3520C Analysis: EPA 8082 264626 Lab #: Lawrence Berkeley National Lab Client: Project#: STANDARD Location: GWMP - Old Town GW Sampling in PCBs Requested: E8082A 220501 02/12/15 Batch#: Matrix: Water Received: Units: Diln Fac: ug/L 1.000 Prepared: 02/17/15 14:00

Field ID: Type: Lab ID:

75189 SAMPLE

Instrument:

264626-009 GC06

Chemist: Sampled: Analyzed:

AVW 02/11/15 08:40 02/19/15 22:35

Analyte	Code	Result	RL	MDL
Aroclor-1016	6450	ND	0.48	
Aroclor-1221	6500	ND	0.96	0.31
Aroclor-1232	6550	ND	0.48	
Aroclor-1242	6600	ND	0.48	
Aroclor-1248	6650	ND	0.48	
Aroclor-1254	6700	ND	0.48	
Aroclor-1260	6750	ND	0.48	

Surrogate	Code %REC	Limits
TCMX	8256 70	39-120
Decachlorobiphenyl	3111 75	28-120

Field ID:

75193 SAMPLE

264626-010

Chemist:

Sampled: Analyzed: AVW 02/12/15 07:45 02/19/15 23:03

Type: Lab ID: Instrument: GC06

Analyte	Code	Result	RL	MDL
Aroclor-1016	6450	ND	0.48	
Aroclor-1221	6500	ND	0.96	0.31
Aroclor-1232	6550	ND	0.48	
Aroclor-1242	6600	ND	0.48	
Aroclor-1248	6650	ND	0.48	
Aroclor-1254	6700	ND	0.48	
Aroclor-1260	6750	ND	0.48	

Surrogate	Code %REC	Limits
TCMX	8256 82	39-120
Decachlorobiphenyl	3111 91	28-120

ND= Not Detected

RL= Reporting Limit MDL= Method Detection Limit

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Polychlorinated Biphenyls (PCBs) CA ELAP# 2896, NELAP# 4044-001 EPA 3520C Lab #: 264626 Cert #: Lawrence Berkeley National Lab Prep: Client: Project#: STANDARD Location: GWMP - Old Town GW Sampling in PCBs Analysis: EPA 8082 E8082A 220501 02/12/15 02/17/15 14:00 Requested: Batch#: Matrix: Water Received: ug/L 1.000 Units: Prepared: Diln Fac:

Field ID:

Instrument:

75194

Type: Lab ID:

SAMPLE

GC16

264626-011

Chemist:

Sampled: Analyzed:

ICK

02/11/15 10:10 02/19/15 20:26

Analyte	Code	Result	RL	MDL
Aroclor-1016	6450	ND	0.48	
Aroclor-1221	6500	ND	0.96	0.31
Aroclor-1232	6550	ND	0.48	
Aroclor-1242	6600	ND	0.48	
Aroclor-1248	6650	ND	0.48	
Aroclor-1254	6700	ND	0.48	
Aroclor-1260	6750	ND	0.48	

Surrogate	Code %REC	Limits
TCMX	8256 71	39-120
Decachlorobiphenyl	3111 87	28-120

Field ID:

75195

Type: Lab ID: Instrument: SAMPLE

264626-012 GC16

Chemist:

Sampled: Analyzed:

ICK 02/11/15 12:10 02/19/15 20:54

Analyte	Code	Result	RL	MDL
Aroclor-1016	6450	ND	0.48	
Aroclor-1221	6500	ND	0.96	0.31
Aroclor-1232	6550	ND	0.48	
Aroclor-1242	6600	ND	0.48	
Aroclor-1248	6650	ND	0.48	
Aroclor-1254	6700	ND	0.48	
Aroclor-1260	6750	ND	0.48	

Surrogate	Code %REC	Limits	
TCMX	8256 59	39-120	
Decachlorobiphenyl	3111 70	28-120	

ND= Not Detected

RL= Reporting Limit MDL= Method Detection Limit

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Polychlorinated Biphenyls (PCBs) Cert #: CA ELAP# 2896, NELAP# 4044-001 Prep: EPA 3520C Analysis: EPA 8082 264626 Lab #: Client: Lawrence Project#: STANDARD Lawrence Berkeley National Lab Location: GWMP - Old Town GW Sampling in PCBs Requested: E8082A 220501 02/12/15 Requested: Matrix: Batch#: Water Received: ug/L 1.000 02/17/15 14:00 Units: Diln Fac: Prepared:

Type: Lab ID: Instrument: BLANK

QC777507 GC06

Chemist: Analyzed:

ICK 02/19/15 23:30

Analyte	Code	Result	RL	MDL
Aroclor-1016	6450	ND	0.50	
Aroclor-1221	6500	ND	1.0	0.32
Aroclor-1232	6550	ND	0.50	
Aroclor-1242	6600	ND	0.50	
Aroclor-1248	6650	ND	0.50	
Aroclor-1254	6700	ND	0.50	
Aroclor-1260	6750	ND	0.50	

Surrogate	Code %REC	Limits	
TCMX	8256 62	39-120	
Decachlorobiphenyl	3111 88	28-120	

ND= Not Detected RL= Reporting Limit MDL= Method Detection Limit

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Batch QC Report

	Polychlorinated	Biphenyl	s (PCBs)
Lab #:	264626	Cert #:	CA ELAP# 2896, NELAP# 4044-001
Client:	Lawrence Berkeley National Lab	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8082
Location:	GWMP - Old Town GW Sampling in PCBs		
Requested	: E8082A	Batch#:	220501
Matrix:	Water	Instrumen	t: GC06
Units:	ug/L	Chemist:	ICK
Diln Fac:	1.000		

Type: Type: Lab ID: BS

QC777508

Prepared: 02/17/15 14:00 Analyzed: 02/19/15 23:57

Analyte	Code	Spiked	Result	%REC	Limits
Aroclor-1016	6450	5.000	3.822	76	62-127
Aroclor-1260	6750	5.000	3.483	70	60-135

Surrogate	Code %REC	Limits	
TCMX	8256 61	39-120	
Decachlorobiphenyl	3111 72	28-120	

Type:

BSD

Lab ID:

QC777509

Prepared: Analyzed:

02/18/15 13:13 02/20/15 00:25

Analyte	Code	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	6450	5.000	5.028	101	62-127	27	29
Aroclor-1260	6750	5.000	4.141	83	60-135	17	40

Surrogate	Code %REC	Limits
TCMX	8256 89	39-120
Decachlorobiphenyl	3111 95	28-120